

**Abstract of the Disclosure**

Apparatus and method to generate a stream of pulses having a pulse repetition rate of at least about 50000 pulses per second and a per-pulse length of less than one picosecond, and to scan and focus the stream to an output light pattern suitable to sculpt tissue for a surgical procedure (e.g., ophthalmologic) using at least a high number of pulses to complete the operation in a matter of a few second, e.g., 100000 pulses in less than ten seconds. A laser having a optical fiber gain medium generates a stream of femtosecond pulses. Some embodiments create a preconditioning negative dispersion that compensates for positive dispersion in the scanning system. In some embodiments, a lenticule is cut using the laser and scanning system and is mechanically removed through a side slit formed through the cornea surface.